Notice of Allowability	Application No.	Applicant(s)	
	10/702,506	TSIRONIS, CHRISTOS	
	Examiner	Art Unit	
	Vincent Q. Nguyen	2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *RCE2/08/2006 and Interview 2/16/2006*.

2. ☒ The allowed claim(s) is/are *7*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 2/08/2006
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *2/16/2006* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

VINCENT Q. NGUYEN
PRIMARY EXAMINER

V. Nguyen
Vincent Q. Nguyen
Primary Examiner
Art Unit: 2858

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Christos Tsironis on February 16, 2006.

2. The application has been amended as follows:

Cancel claims 8-11.

Claim 7 (Currently amended) A calibration method for electromechanical tuner of a metal-dielectric combination microwave probes for use in two-probe electromechanical microwave load-pull tuners comprising: ~~with~~ a test port and an idle port, wherein said probes are surrounding the central conductor and are sliding over the central conductor of the slotted airline of said tuner and their position is controlled independently by means of a horizontal remote translation mechanism~~, 8. A calibration method for said electromechanical tuner used in claim 7, in which scattering parameters (S-parameters) are measured~~ ; using a calibrated vector network analyzer (VNA) measuring scattering parameters (S parameters) between the test and idle port of the tuner as a function of the combination of two sets of horizontal positions of the probes related to the test port of the tuner~~, and saved data~~ ; saving the scattering parameters in a calibration data file for later use~~,~~ ; ~~said positions of the probes being chosen as~~

~~follows:~~ wherein a first set of positions is selected ~~where~~ when both probes move simultaneously away from the test port between zero and one half of a wavelength at the center frequency of operation and a second set of positions ~~where~~ is selected when the first probe remains immobile closest to the test port and the second probe moves away from zero to one half of a wavelength at the center frequency of operation, relative to the position of the first probe.

Allowable Subject Matter

3. Claim 7 is allowed.

4. The following is an examiner's statement of reasons for allowance:

The prior art of record does not teach or suggest a method for electromechanical tuner of a metal-dielectric combination microwave probes for use in two-probe electromechanical microwave load-pull tuners having the steps of measuring scattering parameters the test and idle port of the tuner as a function of the combination of two sets of horizontal positions of the probes related to the test port of the tuner, wherein a first set of positions is selected where when both probes move simultaneously away from the test port between zero and one half of a wavelength at the center frequency of operation and a second set of positions where is selected when the first probe remains immobile closest to the test port and the second probe moves away from zero to one half of a wavelength at the center frequency of operation, relative to the position of the first probe, as recited in the independent claim 7 an in combination of the claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent Q. Nguyen whose telephone number is (571) 272-2234. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

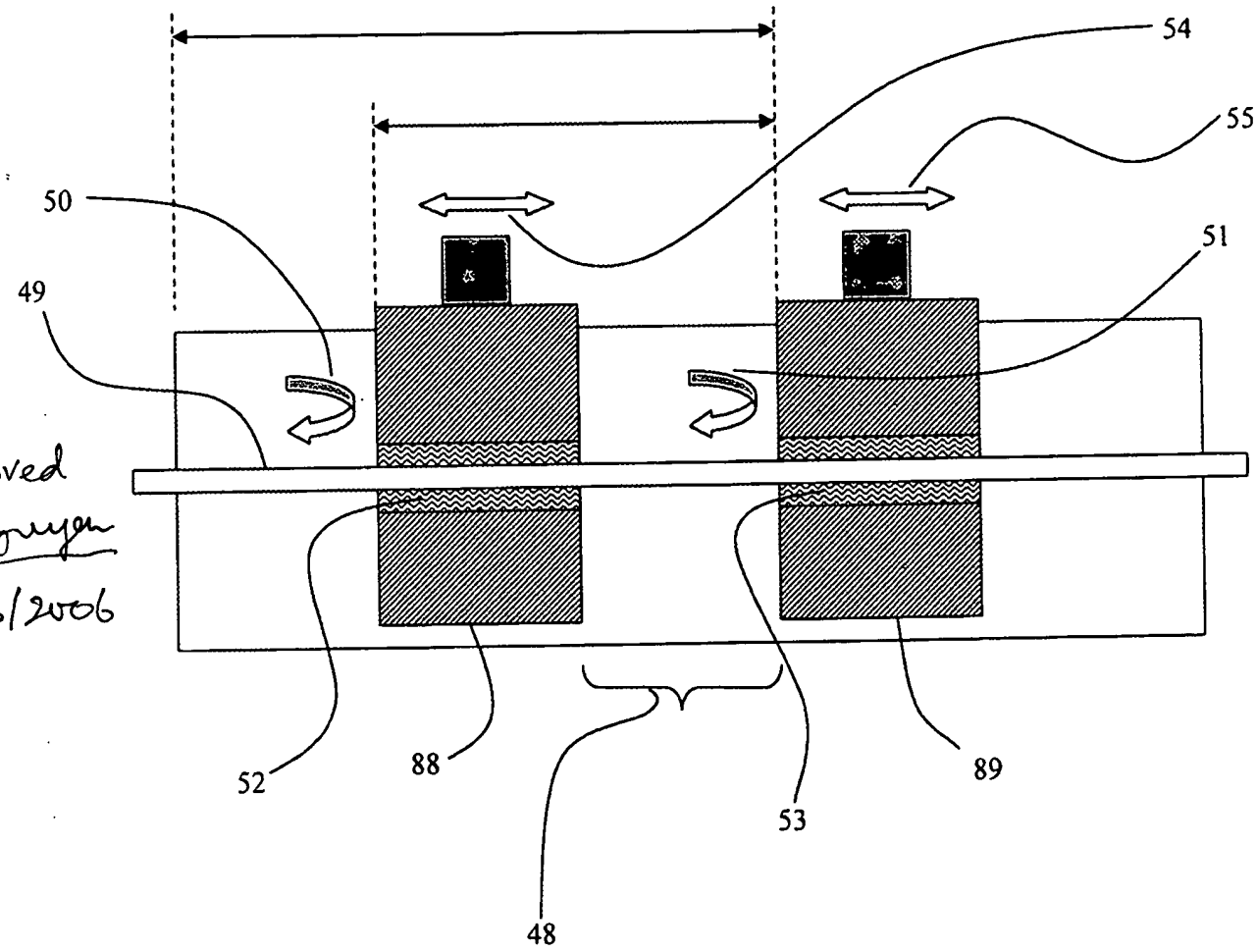
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vincent Q. Nguyen
Primary Examiner
Art Unit 2858

V. Nguyen

February 16, 2006

REPLACEMENT SHEET



Approved
V. Nguyen
2/16/2006

FIG. 8 Partly Prior Art - Cross section

NOT PART OF THE DRAWING
(FOR ARGUMENT ONLY)

V. Nguyen
2/16/2006

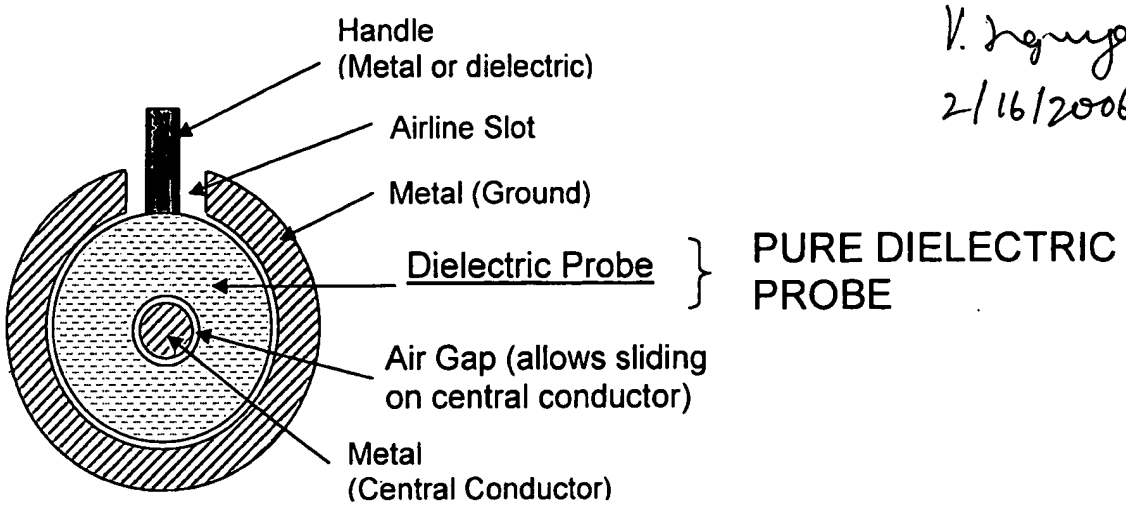


Figure i: Cusak's coaxial dielectric probe, Prior Art.

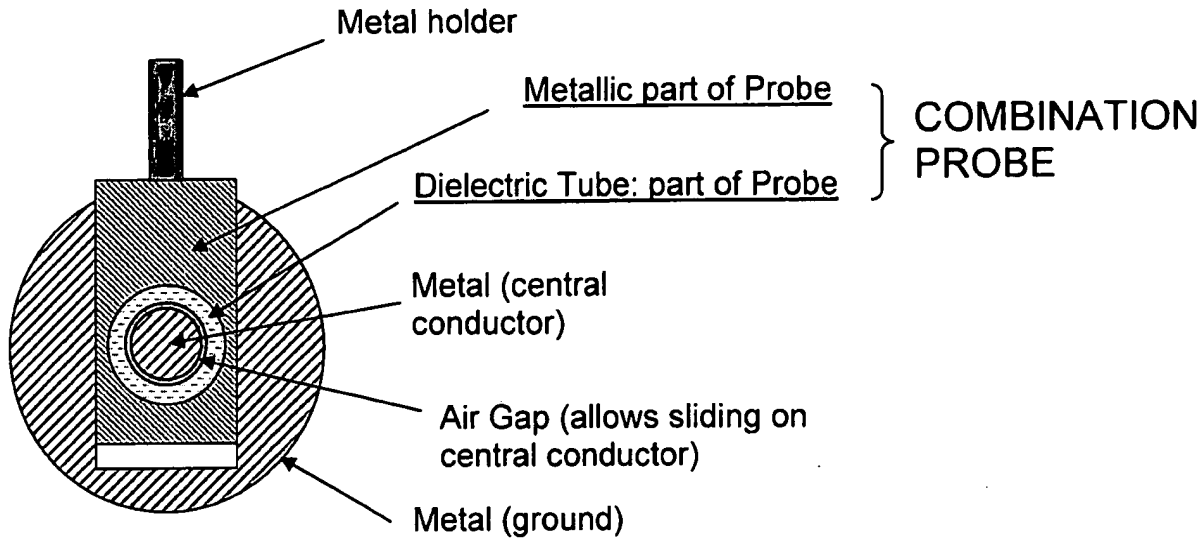


Figure ii: Combination "Metal-Dielectric" Probe (this invention)

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V. Nguyen
2/16/2006

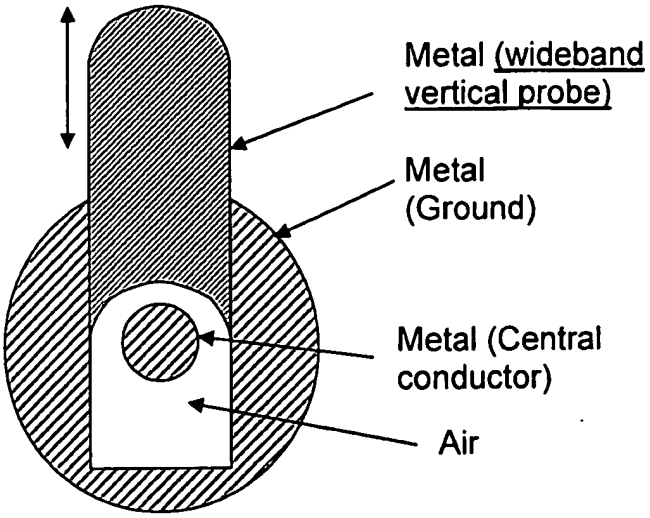

Figure iii: Prior art, in general: Wideband Vertical Metallic Probe (US patent 6,674,293)

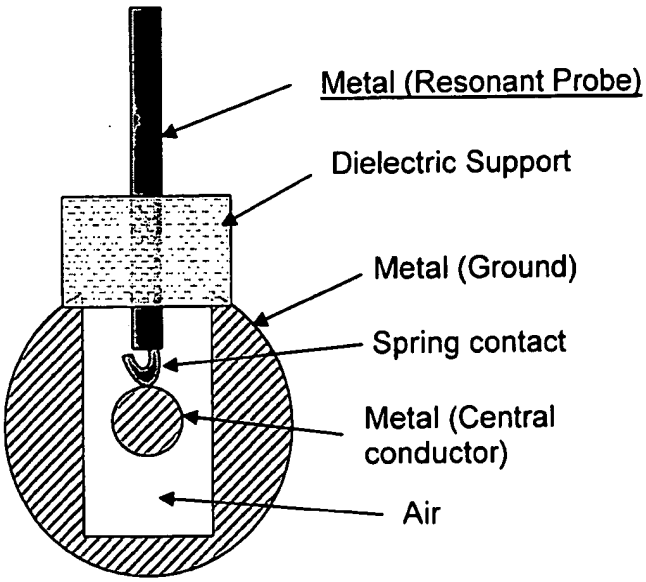

Figure iv: Tsironis' (US patent 6,297,649) Prior Art: Vertical Resonant Probe

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(FOR ARGUMENT ONLY) V.N 2/16/06

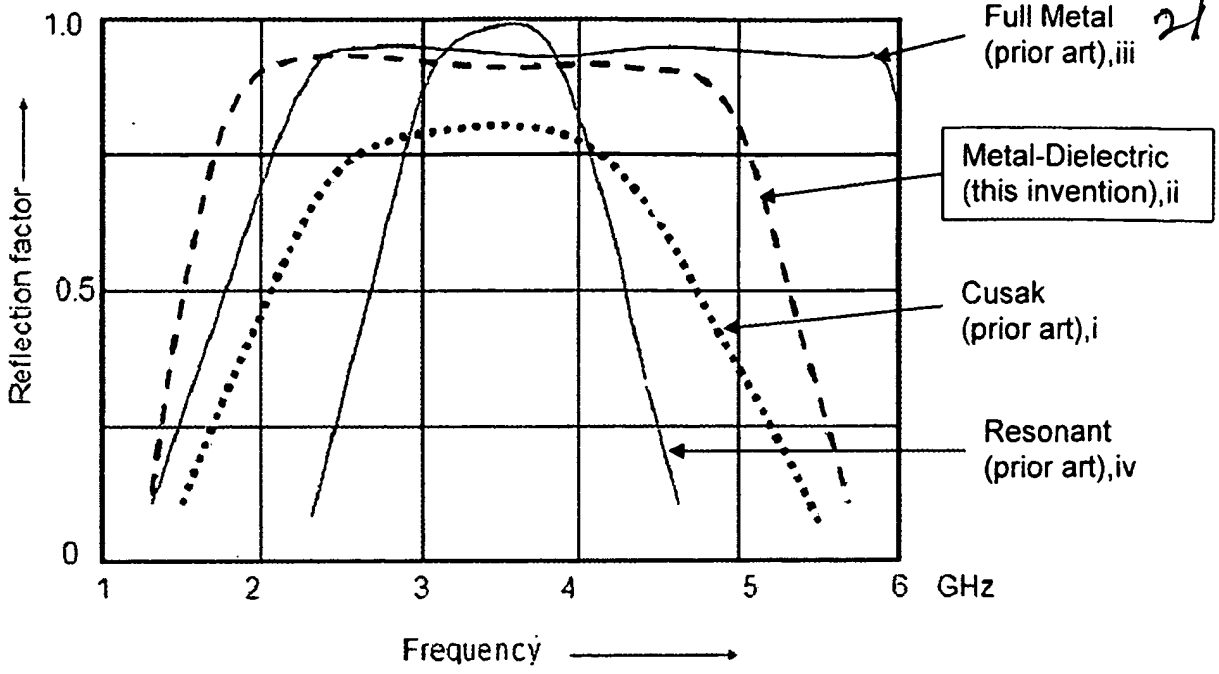

Figure v: Typical frequency response of various tuner probes